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AUTHOR Shade, Barbara J.
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ABSTRACT

The way in which sources of information are perceived in the classroom, in this case by American Indian and Afro-American students, greatly influences the learning process, for the perception determines both the amount of mental effort or cognitive engagement the student decides to invest and the cognitive processes used. Perceptions are influenced, not only by the physiological characteristics of each student, but also by the psychological dimensions that determine the student's selective attention. From all indications, both the perception of the classroom environment and the types of cues which are most salient, and thus most motivating, for Indian and Afro-American students differ from those promoted within the school. It would, therefore, appear that in order to increase the acquisition of the content which these students need in order to function in the general society, changes in teaching methods are needed to accommodate the perceptual orientations of the students and to increase the salience of the message schools wish decoded. (RDN)

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THE PERCEPTUAL PROCESS IN TEACHING AND LEARNING
Cross-Ethnic Comparisons

Barbara J. Shade

University of Wisconsin-Parkside
Kenosha, Wisconsin 53141

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THE PERCEPTUAL PROCESS IN TEACHING AND LEARNING: CROSS ETHNIC COMPARISONS

According to Winne and Marx (1977), effective teachers should have an understanding of the psychological foundations of teaching in order to insure that all students have an opportunity to learn. In addition to understanding the implicit cognitive demands of the various academic tasks (Doyle, 1983), it is also important for them to understand the cognitive processes engaged in by the students. Through the development and manipulation of the learning tasks, teachers can influence the way individuals think and behave. However, this influence is mediated by the student's perceptions of the internal and external stimuli encountered within environment (Wahlberg, 1976).

The theoretical model which best describes this interactional process is based upon the cognitive-mediation paradigm delineated by Neisser (1976) and Arnheim (1969). Succinctly stated, it suggests that when presented with learning tasks, students are expected to extract information, discriminate and categorize it into units, then remember and elaborate on it (Salomon, 1983). The sources from which this information may be obtained include teacher verbalizations, books, movies, television, body movements, charts, and numerous other teaching tools. Each makes certain cognitive demands which activates the cognitive processes of the students.

Based upon the attention given to the various cues presented by the tasks and the interpretation of those cues, students determine what is to be learned and which mental processes are to be used. The type of information accepted and its interpretation influences the degree to which students can and will participate in learning.

It is generally assumed that the participants in the teaching-learning process are attracted to and attend to the same particles of information, therefore the behavior and outcomes produced should be similar. Such assumptions ignore one of the more basic findings in learning, i.e. that each student is a unique information processing system.

Individual variation in information processing is often studied as the construct of cognitive style, the basis of which comes from perceptual theory (Witkin, Moore, Goodenough and Cox, 1977). The basic underlying assumptions of the construct are that perception is egocentric (Piaget, 1969) and is not just a physiological phenomena. As such, individuals are "taught" to attend and filter the information with which they are confronted based upon their own life history and experiences (Gibson 1969, Neisser, 1976). The result is a variation in the perceptual process -- a variation which results in individual differences in search tactics, attention to and interpretation of informational cues (Krech, Crutchfield, Ballachey, 1962).

As Witkin and Berry, (1975) and Thompson (1969) point out these individual differences in perception can be traced to socialization practices. Members of a specific cultural, familial, ethnic, or cultural group seem to develop and maintain particular perceptual patterns which help them handle and adapt to their environment. These patterns, which ultimately influence the information processing techniques used by individuals, are organized around:

1. Affective factors which represent information on the emotional impact of the environment.

2. Spatial cues which help in individual orientation to the environment.

3. Relational categories to assist in the discrimination and analysis of the information; and

4. Behavioral cues to assist in the decision relative to appropriate social actions (Ittelson, Prosharnsky, Rivlin and Winkel 1974).

The use of the information in each of these areas depends upon the individual's preference for gathering, analyzing, and using information. It is, thus, not surprising that individuals may perceive the same object, event or idea in totally different ways.

The influence of different perceptions of the same stimuli on the teaching learning process is an important consideration just recently being explored (Winne and Marx, 1982, 1979). If Salomon (1983) is correct, these

perceptions influence the amount of mental effort a student is willing to invest in learning, (Corno and Mandinach, 1983). It is thus, very possible that the variation in learning outcomes is the result of differences in perceptual orientations of the teachers and the students. The purpose of this paper is to examine this possibility using two ethnocultural groups who seem to have the most difficulty producing the school-expected learning outcomes -- i.e. Indian American and Afro-American.

Cross-Ethnic Comparisons:

The ethnic groups chosen for study represent ethnocultural groups who are very similar yet extremely different. Both, of course, have been relatively isolated from mainstream culture -- Indian Americans through reservation living and Afro-Americans via the concentrated city housing patterns. Although a small percentage of the population of both groups has dispersed throughout various strata of the larger society, a larger percentage of both groups remains in physical and cultural separation.

As the result of this isolation, both groups have developed and maintained some rather distinct cultural patterns. These cultural orientations include methods of communication, religious systems, aesthetic preferences, time orientations and a world view which largely functions around the four perceptual pattern categories previously

identified. This world view is best defined as a perceptual process or cognitive map of the persons and things within the environment. As with any group, this cognitive map of the world is passed on from generation to generation having been found to be a viable method of adaptation to minority status.

Although there appears to be a rather global orientation, each group also has distinctive subcultures. For Indian Americans this distinctiveness is found within each tribal cluster. Haddox (1971) suggests that there are close to 315 tribal groups with their distinct cultures among Indian Americans and Valentine (1971) noted the existence of 14 different subcultures within the Afro-American community. The characteristics presented in this paper are those which seem most common for all groups within the particular ethnic community.

The norm for comparison, while not accepted as the ultimate nor the best, is that of majority culture as represented by the school. The school is a direct reflection of society in general. Therefore, the classroom policies and practices and the traditional teaching-learning process has been designed to represent the dominant values and standards (Nasaw, 1979, Ehlers, 1981). It is, therefore, assumed that the perceptual orientation most reflected in the classroom comes from the middle to upper class northern European populace who established the

schools. The ethnic perspectives to be examined, then, will include European, Indian and Afro-American. The question to be answered is how these distinct perceptual orientations toward environmental information interact with the teaching-learning process. To understand the interaction, let us look at the perceptions of the classroom as a distinctive environment.

THE CLASSROOM IS A PHENOMENAL WORLD

Previous descriptions of the classroom have defined it primarily as a social system (Jackson, 1959, Getzel, 1968, Zeichner, 1978) in which teachers and students are seen as persons interacting with each other toward a common goal. Teachers are generally described as the primary causal agents of behavior (Veldman and Worsham, 1983) in that they manage and present the tasks, structure and organize the environment, and sets up rules to regulate behavior. To these classrooms come students with their own particular cognitive and affective views about behavior and the environment. Getzel (1968) suggests that conflict takes place because the cultural orientations of the teacher and the students often are not congruent. Culture, in this conceptualization, is defined as values and expected behaviors.

McDermott (1977) makes a very similar point in his ethnographic study of classrooms but suggest that the

conflict is the result of a communication breakdown and methods of relating to each other. McDermott sees successful classrooms as those who transcend communication difficulties and develop agreements about how different people can work together and still maintain compatible cultural identities and respect for each other as individuals. Culture from this perspective represents interpersonal relationships.

If the classroom is viewed as a phenomenological field rather than a social system, culture becomes perceptual orientation. Thus, one might explain the differences between teacher and student expectations and learning outcomes as a difference in perspective about the classroom and the learning tasks. Teachers and students, as unique individuals, selectively attend to the elements of the classroom environment which are of particular interest to them. Furthermore, as Combs and Snygg (1959) point out, through their own perceptual and cognitive orientation, the individuals involved place their own particular meaning on the information received thus creating their own phenomenal world. To explore how this difference in perception of the stimuli in the classroom might be manifested across various ethnic groups, it is first necessary to define the primary objects of environmental stimuli to which the attention is given.

Person vs Object Orientation:

In any type of environment, the organism is constantly presented with countless array of stimuli of which only a relatively limited number arouse and shape the perceptions and judgements of the individual. The fundamental question for all students of the perceptual process is. Which of these stimuli enter into the perceptual process? In other words, what are the primary objects to which organisms attend to build bridges between themselves and the environment.

Little (1976) in his conceptualization and review of research on this question came to the conclusion that persons and things are both ontologically and psychologically basic environmental stimuli to which attention is addressed. While it is assumed that individuals can attend to both dimensions, Little concluded that the organism seemed to specialize in one domain to the exclusion of the other. The energy available for investment in environmental encounters at one end of the continuum seemed to draw energy from the attention which could be given to the other; thus Little (1976) and others hypothesized that the the human organism is either a person- or a thing-specialist in their perceptual orientation.

This conceptualization is noted in other theories about person and environmental transactions (See Figure 1). Jung (1923) in his theory of psychological types included a

continuum of extroversion-introversion. Those who are conceived as extroverted are drawn toward people and the external stimuli of the outer world while those who are introverted concentrate on the inner world of things, ideas and tasks (Lawrence, 1982, Morris, 1979).

Horney in 1945 often divided her clients into similar categories by designating them as those who move toward people and those who move away from people. It is this same concept which is often used to define the difference between field-independent and field-dependent learners as developed by Witkin and associates (1954). Field independent learners are more introverted and less oriented to cues which emanate from people to field-dependent individuals are interested in information from external referents and portrayed as drawn to people and the social components of the environment.

Studies of these two orientations have found that the differences have an impact upon interpersonal as well as cognitive behaviors. Cutrona and Feshbach (1979) studied lower income students in the third, fourth and fifth grades, the majority of whom were Afro-American. They found that those individuals who were more person oriented were less egocentric, more prosocial and tended to be more empathetic to others points of views. The object oriented students, however, were more aggressive, more likely to offend and less able to temper their personalities to those around

them. The result was a difference in acceptance by both teachers and peers of the two orientations.

Ruble and Nakamura (1972) found that the two orientations differed in learning style with the object-oriented directing their attention to the teacher to read cues about the tasks while the social or person-oriented students looked at the teacher's face for clues on how to learn. If the particular orientations were given the salient cues from their perspective, they performed equally as well.

Jennings (1974) and Prom (1984) noted cognitive performance differences between the two orientations. For example, Jennings found that the more object-oriented students were better able to differentiate concepts and knowledge, seemingly because of their ability to organize and understand physical materials and inanimate objects. The more people-oriented students, however, developed more harmonious relationships, had a better quality of social interaction and developed a high level of social knowledge.

Examinations of these orientations from a cultural perspective suggests that particular preferences for perceptual stimuli are promoted within certain environmental settings for the purpose of producing certain adaptive behaviors.

The School: The school, like other specialized learning systems has its own culture which includes a

specific and unique organization of time and space, specific forms and rates of speed to which messages presented are encoded and certain assumptions about how the learning process should proceed. As a result, there are special requirements as to how the participants should attend to information (Postman, 1981). Based upon studies of the classrooms in which this culture is most presented, it appears that school culture is primarily thing-oriented. As a result, attention is directed toward the accomplishment of the task or acquisition of content which seems to involve a physicalistic approach (Trickett, 1978; Ehlers, 1981; McDermott, 1977). This thing-or task-orientation is epitomized by the type of tests used to measure educational performance. In addition, highly promoted models of the teaching-learning process such as mastery learning, direct instruction, and individual guided education are built upon task completion. The result is that teachers deal with children in a fairly universalistic fashion "responding less to emotional needs and more to the necessity for them to become task and achievement oriented" (Gump, 1978, p. 153). This achievement orientation is particularly important in that it encourages independence and individualism which makes the student less in need of patience, encouragement or warmth. For them, relating to the task takes precedence over

relating to the teacher as a person (Swift and Spivak, 1973; Brophy, 1978).

Indian American: At first reading, the studies about the various tribes, suggest that Indian American culture produces person-oriented individuals. As Dumont and Wax (1969) point out in their ethnography of Cherokee children in the classroom, there is a tremendous concern about the world of their elders and the promotion and maintenance of harmonious social relations. Krueger (1971) was more forthright and stated that Indians of the Pima tribes were highly person-oriented and required a personal more informal approach to establish communication. Krywaniuk and Das (1976), on the other hand, found that Navajo children in the Los Angeles area were more likely to attend to and pay attention to objects more than whites which might suggest a thing-or-object orientation. One certainly cannot dismiss this possibility as the studies of the various tribes suggest a high value placed upon nature and the objects within nature as well as the value of withdrawing from people and considering abstract ideas and the contemplation of tasks to be done.

Perhaps a better assessment of Indian American culture, would be to suggest a generalist orientation.
Little (1976) describes these types of individuals as those who give attention to and are interested in encounters with people as well as things. These individuals can respond in

a stimulus-appropriate manner in either situation and use both personalistic and physicalistic perceptions to experience and understand the environment.

Afro-Americans: Empirical indications presented by Virginia Young in 1970 and 1974 in results of her studies of child-rearing practices in southern Afro-American communities suggest that Afro-Americans people rather than object oriented. A similar proposal was presented by Hale (1981) and Hilliard (1976). Damico (1983) tested this assumption in a junior high by giving Afro-American and Euro-American students the opportunity to compose and photograph the physical and social aspects which best described their school for them. A content analysis of the pictures found that Afro-Americans took and attended to significantly more pictures of people while Euro-American children took pictures primarily of the physical environment. Damico concluded that different perceptions of the school did exist and that these differences reflected cultural orientations.

Perhaps the best evidence of Afro-American person orientation is found in the representations present in Afro-American art. In many ways art is an excellent way of understanding a group's perception of the world as art is said to represent the underlying psyche of a culture. A pilot study using Afro-American art pieces was done by the author. The time period selected was 1920 through the

present time since this is the time period most associated with the emergence of Afro-American identity. Content analysis found that the dominant subjects included either people or social interaction situations in over 60% of the pieces. This finding seemed to be consistent with the identified black aesthetic preference (Jenkins, 1983).

The environmental orientation of a group is an extremely important factor in the teaching-learning process as it represents the major focus of the perceptual process of the students within the classroom. The complexity of the information presented in a school environment makes it necessary for students to experience the classroom in a narrow, discriminating way (Wachtel, 1967). Each student, thus, selects a particular subset of information on which to act and this particular set of stimuli become salient cues (Cutrona and Feshbach, 1979). Based upon the different orientations now identified, let us focus our attention of the types of cues which seem to be most salient to the cultural groups we have chosen for comparison.

SALIENT CUES IN LEARNING PROCESS

How does a student come to know the world? Royce (1973) suggests that learning may be done in many forms; i.e. metaphorically, empirically, or rationally. Each of these methodologies represent differences in the favored ways of gathering, analyzing, and interpreting information.

The metaphoric learner is probably open to visual cues, the empirical, the more kinesthetic cues, while the rational learner is probably a listener. In coping with the environment, regardless of the setting, the individual uses all modes alternately, however, Barsch (1971) and Wober (1966) believe that individuals may prioritize their modes in the order of efficiency in information processing. Dunn (1982) concurs and suggests that children have their own individual perceptual strengths which lead them to selectively attend to different sensory cues.

Examination of the interactions of these different cultures with the environment does indicate a preference in types of modality cues.

For the schools, auditory and visual stimuli seem to be the most important as the rational approach to information is presented through an expository, visual approach to ideas, concepts and actions (Postman, 1981; Getman, 1981). The kinesthetic/haptic dimension is hardly recognized particularly when students get beyond third grade (Price, 1982; Barbe and Swassing, 1979). The evidence of the importance of these channels can be found in any description of a traditional classroom as well as in the analysis of the design of the curriculum materials, the classroom organizational structure, and the measurement tools designed to assess learning outcomes.

It is generally assumed that the aural mode is the most important perceptive register within the Afro-American community (Goldstein, 1971; Kochman, 1972). Bruininks (1969) examined the perceptual style of young Afro-American males and found that, for his sample, those tests having the highest relationship to reading achievement were auditory. Robbins (1976) asked both Afro- and Euro-American college students to report their perceptions of the best learning mode for themselves. Afro-Americans reported that they believed that they learned better via the spoken word. A review of the literature, suggests however that the haptic/kinetic element is also important to the selective attention of Afro-Americans (Shade, 1984).

Kinetic/haptic perception is defined as cues which are received via large and small movement and the sense of touch (Price, 1982). Lowenfeld (1945), who was most instrumental in looking at this type of perception in learning and cognition, suggests that this perceptual style arises from within and is subjective. "It is in a sense an externalization of inner feelings and experiences of the individual, especially with respect to bodily sensations of muscular movements and all aspects of touch and responses to vibration (Pickford, 1972, p. 48). Lowenfeld suggests that haptic perception brings individual experiences out to the environment while visual perception is objective and brings the outside world to the individual. Obviously a

haptic/kinestic oriented person would use visual cues differently than the individual whose visual perception is most effective.

It is hypothesized that, as a result of this perceptual preference, Afro-Americans have developed their rather distinctive body language vocabulary as well as the kinetic idiom which has been found in their verbalizations (Kochman, 1972, Pasteur and Toldson, 1982). Pasteur and Toldson (1982) noted that in school the student must psychologically remove their awareness of the body; however, they suggest that the essence of Afro-American culture is the development of somatic perceptions as a way of knowing and expressing reality. Gardner (1983) refers to this as kinesthetic intelligence.

This orientation might certainly account for the findings of sensitivity and exceptional ability at interpreting facial expressions (Feinman and Entwisle, 1976; Shade, 1982) and for the findings often noted in studies of Afro-American visual behavior. Malone (1969) and Silverstein and Krate (1975), for example, noted in both lower and working class students a variation from the traditional use of vision. The latter authors suggest that Afro-American children learn to regulate their behavior by watching others and therefore develop a high degree of perceptual acuity for people.

Such perceptual orientation can create communication problems in the classroom. Studies of gazing behavior during social interaction found that Euro-Americans tend to look away from their conversational partner when speaking but look at them when listening to their comments. Afro-Americans, on the other hand, seem to function in the reverse and look away while listening but gaze directly when speaking (LaFrance and Mayo, 1976). While no explanation is advanced for this behavior, it is very possible that Afro-Americans are attempting to hear the words and ignore the haptic messages being sent. Whatever the reason, this difference is often viewed as inattentiveness and/or belligerence by Euro-American teachers.

Indian Americans, on the other hand, are apparently very oriented toward visual cues (Phillips, 1983; Krywaniuk and Das, 1976; Plas and Bellet, 1983; Guilmet, 1981). Studies of tribes in Canada, the Midwest and the West coast all indicate that the cues to which Indian Americans most attend are the slightest movements in gestures and changes in expressions of the eyes. In fact, ethnographic studies within the culture suggest that Indian Americans tend to control their body movements and thus demonstrate less bobbing of the head, less shifting, and fewer hand gestures than Euro-Americans and certainly than Afro-Americans (Shipek, 1984; Phillips, 1983). It seems likely that this

control is a way of not interfering with the visual cues present in the interaction.

The influence of these cultural differences in visual perceptual behavior is highly significant in the classroom, particularly in the information presentation dimension. Teachers, of course, are expecting pupils to demonstrate their interest and acceptance of the information by looking directly at them or the material. Indian Americans, on the other hand, are probably observing and listening to the teacher determining acceptance, harmony and competence (Guilmet, 1981; Phillips, 1983; LaFrambois et al., 1981), while Afro-American students may not be looking at them at all relying primarily on what they hear. The result is that each party is attending to different information.

The same differential patterns may be noticed in verbal cues preferences. Indian Americans apparently tend to value conciseness of speech, only slightly varied intonation and a fairly limited spatial range of voice used to attract attention. Teachers who fit the traditional school culture tolerate a higher level of verbal exhitation and use of intonation to attract attention. This pattern becomes even more pronounced for Afro-Americans who have an extremely varied range of pitch and intensity and are accustomed to more dramatic and high exhitation in voice in order to attract and maintain attention (Kochman, 1972; Phillips, 1983).

This selective attention to information is also influenced by culturally induced pictorial preference. A series of studies on stimuli preferences (Gaines 1966, 1976) led to the conclusion that there is a relationship between stimulus preference and learning rate. The two stimuli considered most important were color and form.

An initial test (Suchman and Trabasso, 1966a) found very definitive differences in preferences for Euro-Americans, with younger children having a preference for color stimuli and older children being more oriented toward form. Gaines (Suchman) suggests that this developmental trend is the result of the American educational process which requires attention to form in order to read. The same developmental trend was not noted in other cultures with a different educational emphasis (Gaines (Suchman) and Little, 1975).

When the preferred stimuli were used in the teaching-learning process, it was found that they serve as cues and facilitate the learning of concepts, however, when not used, the learning of concepts is retarded (Suchman, (Gaines) and Trabasso, 1966b). The investigators concluded that it is important for learning stimuli to be congruent with children's perceptual preferences in order to be effective.

To examine perceptual preferences from a cross-ethnic perspective it is necessary to examine the literature on

aesthetics. Morrison (1979) noted that people evolve their particular taste for color form, design and shape within their cultural contexts (Jenkins, 1983).

In studies of color preference quoted by Pickford (1972), 559 Navajo between the ages of 7 and 21 and were asked to to indicate their color preference. The results suggest that red is the most preferred color by this group and yellow the least preferred. Euro-Americans in the study preferred blue with yellow as the least preferred. When compared with Euro-Americans meaning given to color on an Osgood differential scale the interpretations of color was also basically different. For example, for red, Euro-Americans indicated that pretty, young, and energetic were appropriate adjectives to describe this color while the Navajo found that taut, angry and masculine were more appropriate descriptors.

The preference for an intense hue found for Afro-Americans may be a cultural preference (Jenkins, 1983) but also ma be due to physiological differences. Studies of responses to color by eyes with dark pigmentation suggest less discrimination of colors in the short-wave hue, e.g., blue, green and yellow (Mitchell and Pollack, 1974; Bornstein, 1973; Sweeney, Zegers and Collins, 1964; and Pollack and Silvar, 1967). This relationship has not been borne out for all people of African origins (Gaines and Powell, 1981, 1982). While the investigators found that Afro-Americans

and Euro-Americans from the same environment (California) differed as expected, individuals of African origin in Nigeria and the Caribbean were no different than Euro-Americans in blue-green hue discriminations. The authors attempted to explain this difference on psychological causes, however, a cultural explanation may be more valid.

Differences in form perception seems to be accepted, particularly as it relates to Afro-Americans and the Indian Americans (Jenkins, 1983; Lark-Horowitz, 1939-40, Dockstader, 1961). There is apparently a culturally prescribed use of space, color, content and design. The preferences for these various dimensions apparently manifest themselves in picture perception with different ethnic groups attending to and attaching emotional meaning to different types of pictorial representation of reality. It would appear that this preference also has implications for cognitive performance differences (Shade, 1984; McShane, 1980).

Perhaps the best indication of group variation in perceptual preference is found in studies using Witkin's construct of field-independence/field dependence. While this construct evolved out of both visual (Embedded Feures Test) and haptic perception (Rod and Frame Test), it is generally associated with difference in visual perceptual style (Shade, 1981, 1984). Although it is generally assumed

that Indian Americans will be field dependent, they actually demonstrate a high degree of field independence. This has been true regardless of the tribe. Dinges and Hollenbeck (1978) checked the perceptual style of Navaho and found them to be field independent as were the Seminoles in the Halverson (1976) study and the Menomenee children tested by Utley (1983). Evidence suggests that Indian Americans are not only equal to but often even more field independent than Euro-Americans. This performance on the Embedd Figures Test as well as the performance tests of the various intelligence measures (McShane, 1980 and Reynolds and Willson, 1982) if previous analyses are correct, (Shade, 1984), may be the result of the emphasis on visual-spatial perception found in the Indian culture.

Discussion about the saliency of cues and the perceptual process is incomplete without the inclusion of the importance of the affective dimension. As Goldberg and Mayerberg (1973) point out, the teaching-learning process is . . . "more than content and method, for teachers and students are human beings and whatever transpires between them affects the teaching-learning transaction.

Schools, of course, seem to emphasize cognitive activity to the exclusion of learning about the emotional content of information. Yet, one cannot deny that the totality of cognition encompasses affective, as well as the cognitive and psychomotor elements (Bloom, 1976; Carrol, 1963). Izard (1971) points out that emotions influence cognition because emotions like academic tasks make cognitive demands.

Examination of the research which examines the influence of the affective dimension on learning reports a positive correlation between the affective dimensions of the

environment, the tasks, and the teacher on the performance of both Afro-Americans and Indian Americans (Rychlak, 1975; Kleinfeld, 1970; Guilmet, 1978; St. John, 1971). These studies suggest that Afro-American and Indian American students pay very close attention to the affective factors in the classroom environment as well as in verbal and non-verbal presentations of the teacher (Albas, McCluskey and Albas, 1976; LaFrombois, Dauphinais and Lujan, 1981; Rollman, 1978). When the cues seem to be negative and uninviting, the interpersonal warfare described by McDermott (1977) probably becomes evident rather than the sustained attention which is necessary to complete cognitive tasks.

SUMMARY

The way in which sources of information are perceived in the classroom greatly influences the learning process as it determines the amount of mental effort or cognitive engagement the student decided to invest and it determines the cognitive processes used by the students. These perceptions are influenced, not only by the physiological characteristic of each student but also by the psychological dimensions which determine the student's selective attention. From all indications, both the perception of the classroom environment and the types of cues which are most salient and, thus, most motivating for Indian and Afro-American students differs from those promoted within

the school. It would, therefore, appear that if we are going to increase the acquisition of the content with these students need to function in the general society, then changes in the teaching methods are needed to accommodate the perceptual orientations of the students and increase the salience of the message schools wish decoded.

FIGURE 1
PERSON vs OBJECT ORIENTATION

	Person-Specialist	Thing-Specialist
Little (1976, 1972)	-Interest in a variety of encounters with people. -Little interest in physical objects -Likes nuturant, affiliative, empathetic interactions -Focuses on emotional aspects of other people -Attends to nonverbal cues through close proxemic interaction and facial cues	-Interested in wide range of encounters with physical, machines, artifacts, things -Likes mechanical, manipulative, analytic interactions -Likes order, clarity and practicality -Very data based
	Extroversion	**Introversion**
Jung (1923)	-Gregarious perceptual attention directed toward people and actions -Favors arenas of self expression -Adapts to environment -People oriented, likes to interact with others to emphasize social relationships	-Concentrates attention on inner world of ideas, tasks, things -Desires autonomy, likes to be alone -Prefers to be analytical about world
	Moves Toward People	**Moves Away From People**
Horney (1945)	-Marked need for affection and approval -Needs to be liked, wanted, loved, accepted, needed -Likes to be important to others -Extroverted	-Does not like being attached -Pronounced need for privacy, self-sufficiency, independence -Rejects conventional rules, standards, mass conformity -Introverted
	Field-Dependent	**Field-Independent**
Witkin et al (1949)	-Uses external referents and more socially oriented frames of referents -Drawn to people, prefers to be physically close -Attuned to social components of environment	-Uses internal referrents -Attuned more to process and task oriented of situation -Functions autonomously from other and seems unaware of their social stimuli -Ignores social undercurrents and cues from people

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